IN THE CLAIMS

Please cancel claims 4, 5 and 12, and further amend the claims to read as indicated herein.

1. (currently amended) A method ~~for modeling a first device, the method comprising the steps of~~ comprising:

(a) receiving a measured electrical ~~behavior~~signal response in at least one of time ~~and~~ domain or frequency domain, wherein the measured electrical ~~behavior~~ signal response ~~at least~~ substantially represents ~~at least a portion of the~~ an electrical behavior of ~~the first device, and~~ an electronic device;

~~(b) modeling the first device by using a circuit with one or more circuit device, wherein each circuit device has a known model for its electrical behavior, and the circuit substantially represents the measured electrical behavior of the first device;~~

~~wherein the step b comprises a step of:~~

~~approximating the measured signal response by sections of a curve, preferably by sections of a section-wise substantially linear curve.~~

(b) sampling the received measured electrical signal response at a plurality of sampling points and approximating each section of the received measured electrical signal response between two adjacent sampling points by a respective linear curve section;

(c) for each section of the measured electrical signal response:

(i) selecting a pulse unit for generating a pulse having a transition between the two adjacent sampling points associated with the section; and

(ii) selecting a current source or a voltage source providing, in response to the pulse from the selected pulse unit, an output signal corresponding to the slope of the section;

(d) selecting an integrating unit for superimposing the output signals from each of the selected current or voltage sources for generating an approximated signal response; and

(e) creating a model of the electronic device based on the selected pulse units, the selected current or voltage sources and the selected integrating unit.

2. (currently amended) The method of claim 1, wherein the measured electrical ~~behavior~~ signal response comprises ~~at least one of a group comprising~~ a signal selected from the group consisting of:

a measured signal response ~~on~~ to a predetermined electrical signal provided as a stimulus signal to the ~~first~~ electronic device, and

a response ~~on a step signal,~~to a step signal so that the measured ~~electrical behavior~~signal response comprises a step response.

3. (currently amended) The method of claim 1, wherein the~~step b comprises a step of: delimiting the sections by sampling points of the signal response preferably being time-sampled.~~ measured electrical signal response is sampled in the time domain.

4. (canceled)

5. (canceled)

6. (currently amended) The method of claim 1, further comprising ~~the step of~~:

calculating ~~an at least~~ a substantially ideal step response from a measured real step signal having a finite slew rate and from the measured electrical signal response ~~on~~to the real step signal.

7. (currently amended) The method of claim 6, ~~using at least one of Fourier Transformation and Fast Fourier Transformation for calculating the ideal step response.~~ wherein the ideal step response is calculated by a technique selected from the group consisting of a Fourier Transformation and a Fast Fourier Transformation.

8. (currently amended) The method of claim 1, ~~further comprising a step of using~~ wherein the model of the ~~first~~ electronic device ~~in at least one of~~ is generated by a system selected from the group consisting of a simulation system and a SPICE simulation system.

9. (currently amended) The method of claim 1, wherein the ~~first~~ electronic device is ~~at least one of~~ selected from the group consisting of: a substantially linear device, a substantially time-invariant device, an electrical device~~, an electronic device~~, a signal path, a high-speed signal path, a line drive output, a line drive output of an automated test equipment, and an n-port network.

10. (currently amended) The method of claim 1, wherein the ~~electrical behavior of the first~~ measured electricalsignal response of the electronic device is ~~measured using at least one~~ a measurement selected from the group consisting of a time domain reflection measurement and a time domain transmission measurement.

11. (currently amended) The method of claim 1, further comprising ~~the step of~~:

measuring the ~~electrical behavior of the first~~signal response of the electronic device in at least one of the time domain and the frequency domain.

12. (canceled)

13. (currently amended) A software ~~program or product, preferably stored on a data carrier, for executing the method of claim 1 when running on a data processing system such as a computer.~~product comprising code for controlling a processor to execute a method that includes:

(a) receiving a measured electrical signal response in at least one of time domain or frequency domain, wherein the measured electrical signal response substantially represents an electrical behavior of an electronic device;

(b) sampling the received measured electrical signal response at a plurality of sampling points and approximating each section of the received measured electrical signal response between two adjacent sampling points by a respective linear curve section;

(c) for each section of the signal response:

(i) selecting a pulse unit for generating a pulse having a transition between the two adjacent sampling points associated with the section; and

(ii) selecting a current source or a voltage source providing, in response to the pulse from the selected pulse unit, an output signal corresponding to the slope of the section;

(d) selecting an integrating unit for superimposing the output signals from each of the selected current or voltage sources for generating an approximated signal response; and

(e) creating a model of the electronic device based on the selected pulse units, the selected current or voltage sources and the selected integrating unit.

14. (currently amended) A system ~~for simulating electronic circuits using a model of a first device, being a linear time invariant electrical or electronic device,e.g. a signal path or a n-port network, the model of the first device being modeled according to the method of claim 1 or any one of above claims.~~ that performs a method comprising:

(a) receiving a measured electrical signal response in at least one of time domain or frequency domain, wherein the measured electrical signal response substantially represents an electrical behavior of an electronic device;

(b) sampling the received measured electrical signal response at a plurality of sampling points and approximating each section of the received measured electrical signal response between two adjacent sampling points by a respective linear curve section;

(c) for each section of the signal response:

(i) selecting a pulse unit for generating a pulse having a transition between the two adjacent sampling points associated with the section; and

(ii) selecting a current source or a voltage source providing, in response to the pulse from the selected pulse unit, an output signal corresponding to the slope of the section;

(d) selecting an integrating unit for superimposing the output signals from each of the selected current or voltage sources for generating an approximated signal response; and

(e) creating a model of the electronic device based on the selected pulse units, the selected current or voltage sources and the selected integrating unit.

15. (currently amended) A system ~~for modeling a first device~~, comprising:

(I) a receiver ~~adapted~~ for receiving a measured electrical ~~behavior~~ signal response in at least one of time ~~and~~ domain or frequency domain, wherein the measured electrical ~~behavior~~ signal response ~~at least~~ substantially ~~represents~~ represents ~~at least a portion of the~~ an electrical behavior of ~~the first~~ an electronic device, and

(II) a modeling unit ~~adapted for modeling the first device by using a circuit with one or more circuit device, wherein each circuit device has a known model for its electrical behavior, and the circuit substantially represents the measured electrical behavior of the first device, and wherein the modeling unit is adapted for~~ for:

~~approximating the measured signal response by sections of a curve.~~

(a) sampling the received measured electrical signal response at a plurality of sampling points and approximating each section of the received signal response between two adjacent sampling points by a respective linear curve section;

(b) for each section of the signal response:

(i) selecting a pulse unit for generating a pulse having a transition between the two adjacent sampling points associated with the section; and

(ii) selecting a current source or a voltage source providing, in response to the pulse from the selected pulse unit, an output signal corresponding to the slope of the section;

(c) selecting an integrating unit for superimposing the output signals from each of the selected current or voltage sources for generating an approximated signal response; and

(d) creating a model of the electronic device based on the selected pulse units, the selected current or voltage sources and the selected integrating unit.

16. (currently amended) The system of claim 15, further comprising:

a measuring unit ~~adapted~~ for measuring the electrical behavior of the ~~first~~ electronic device in at least one of ~~time and~~ the time domain or the frequency domain.

Please add the following claim, newly numbered as claim 17.

17. (new) The system of claim 14, wherein the electronic device is a signal path or a n-port network.